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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/028,386	12/21/2001	Richard Y. Chen	US 010700	4894

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EXAMINER

WONG, ALLEN C

ART UNIT	PAPER NUMBER
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2613

DATE MAILED: 10/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/028,386

Applicant(s)

CHEN ET AL.

Examiner

Allen Wong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5/12/03
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu (6,614,936) in view of Mishima (5,488,418).

Regarding claims 1, 8 and 11, Wu discloses a program product stored on a recordable medium for encoding a layered video signal, the program product comprising:

means for receiving a video signal and outputting an encoded base layer stream (fig.9, element 82); and

means for encoding an enhancement layer (fig.9, element 84).

Although Wu does not specifically disclose wherein the enhancement layer encoding means includes a plurality of discrete cosine transform (DCT) modules and selection means for selecting one of the DCT modules, however, Mishima teaches the use of a plurality of discrete cosine transform (DCT) modules and selection means for selecting one of the DCT modules (fig.50B, Mishima discloses the use of multiple DCT modules 77 with a selection means 79 for selecting one of the appropriate DCT module from the plurality of DCT modules). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Mishima's multiple DCT modules

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and selection means into Wu's enhancement layer coder for producing the enhancement layer encoding means includes a plurality of discrete cosine transform (DCT) modules and selection means for selecting one of the DCT modules so as to accurately, efficiently encode and decode image data with as few errors as possible during transmission while maintaining high image quality (Mishima col.6, ln.7-19).

Regarding claims 2 and 9, Wu does not specifically disclose wherein each of the plurality of DCT modules comprises a different precision. However, Mishima teaches the use of a plurality of discrete cosine transform (DCT) modules and selection means for selecting one of the DCT modules (fig.50B, Mishima discloses the use of multiple DCT modules 77 with a selection means 79 for selecting one of the appropriate DCT module from the plurality of DCT modules, wherein each DCT 77 comprises its own precision). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Mishima's multiple DCT modules and selection means into Wu's enhancement layer coder for producing the enhancement layer encoding means includes a plurality of discrete cosine transform (DCT) modules and selection means for selecting one of the DCT modules so as to accurately, efficiently encode and decode image data with as few errors as possible during transmission while maintaining high image quality (Mishima col.6, ln.7-19).

Regarding claims 3-7 and 10, Wu does not specifically disclose wherein the selection means selects one of the DCT modules based on one of the group consisting of: an available level of computing resources; an encoding bit rate; a required quality level; a decoder capability; and bandwidth availability. However, Mishima teaches

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wherein the selection means selects one of the DCT modules based on one of the group consisting of: an available level of computing resources (col.24, ln.23-33); an encoding bit rate (col.24, ln.23-33); a required quality level (col.24, ln.23-33); a decoder capability (col.24, ln.23-33); and bandwidth availability (col.24, ln.23-33). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Mishima's multiple DCT modules and selection means into Wu's enhancement layer coder for producing the enhancement layer encoding means includes a plurality of discrete cosine transform (DCT) modules and selection means for selecting one of the DCT modules so as to accurately, efficiently encode and decode image data with as few errors as possible during transmission while maintaining high image quality (Mishima col.6, ln.7-19).

3. Claims 12-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over De Bonet (6,510,177) in view of Strongin (5,872,866).

Regarding claims 12, 18 and 21, De Bonet discloses a program product stored on a recordable medium for decoding a layered video stream, comprising:

means for receiving and decoding a base layer video stream (fig.2, element 270);

and

means for receiving an enhancement layer video stream and generating a decoded enhanced video output (fig.2, element 280 is the enhancement layer decoder and note the enhanced video output is displayed on monitor 290).

Although De Bonet does not specifically disclose wherein the enhancement layer decoding means or means for receiving an enhancement layer video stream including: a plurality of inverse discrete cosine transform (IDCT) modules; and means for selecting one of the IDCT modules. However, Strongin teaches the use of a plurality of inverse discrete cosine transform (IDCT) modules; and means for selecting one of the IDCT modules (fig.6, elements 650-653 are the plural IDCT modules and element 640 is the selection means for selecting one of the IDCT modules). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Strongin's plural IDCT modules and selection means into De Bonet's enhancement layer decoder module for producing means for receiving an enhancement layer video stream including: a plurality of inverse discrete cosine transform (IDCT) modules; and means for selecting one of the IDCT modules so as to reduce the computational burden of the video decoding by selecting a highly efficient inverse discrete cosine transform which is optimized for particular picture characteristics (Strongin col.4, ln.1-5).

Regarding claims 13 and 19, De Bonet does not specifically disclose wherein each of the plurality of IDCT modules comprises a different precision. However, Strongin teaches wherein each of the plurality of IDCT modules comprises a different precision (col.13, ln.33-39; note selection circuit 640 selects the optimum IDCT unit based on the precision that each IDCT has). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Strongin's plural IDCT modules and selection means into De Bonet's enhancement layer decoder module for

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producing means for receiving an enhancement layer video stream including: a plurality of inverse discrete cosine transform (IDCT) modules; and means for selecting one of the IDCT modules so as to reduce the computational burden of the video decoding by selecting a highly efficient inverse discrete cosine transform which is optimized for particular picture characteristics (Strongin col.4, ln.1-5).

Regarding claims 14-17 and 20, De Bonet does not specifically disclose wherein the selection means selects one of the IDCT modules based on one of the group consisting of: an available level of computing resources; an encoding bit rate; and a required quality level; a decoder capability; and bandwidth availability. However, Strongin teaches the selection means selects one of the IDCT modules based on one of the group consisting of: an available level of computing resources (col.13, ln.33-39); an encoding bit rate (col.13, ln.33-39); and a required quality level (col.13, ln.33-39); a decoder capability (col.13, ln.33-39); and bandwidth availability (col.13, ln.33-65; note selection circuit 640 selects the optimum IDCT unit based on the precision that each IDCT has, in that the bandwidth, quality level, computing resources, encoding bit rate and decoder capacity are taken into account before the IDCT selection circuit 640 chooses the optimum IDCT module for preparation of decoding image data for viewing). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Strongin's plural IDCT modules and selection means into De Bonet's enhancement layer decoder module for producing means for receiving an enhancement layer video stream including: a plurality of inverse discrete cosine transform (IDCT) modules; and means for selecting one of the IDCT modules so as to

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reduce the computational burden of the video decoding by selecting a highly efficient inverse discrete cosine transform which is optimized for particular picture characteristics (Strongin col.4, ln.1-5).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen Wong whose telephone number is (703) 306-5978. The examiner can normally be reached on Mondays to Thursdays from 8am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Kelley can be reached on (703) 305-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Allen Wong
Examiner
Art Unit 2613

AW
9/28/04